SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1242.—Vol. XXIX.] LONDON, SATURDAY, JUNE 11, 1859. [WITH JOURNAL] STAMPED.... SIXPENCE. UNSTAMPED. FIVEPENCE.

Glances at Recent Geological Literature.

GEOLOGICAL RAMBLES—WALKS IN SILURIA.

Our readers will remember that a few weeks ago we commenced our ices of that now very popular book, Murchison's *Siluria*.* Since we iced the third edition it has received the unusual honour (for a strictly ntific work) of a detailed review in the *Times*, and we find in e pro- ial towns that the book is borrowed from libraries, and at least nomi- y read. This is encouraging to geologists, for, as we have before ob- ed, the style and character of the volume are such as to present few r attractions than such as are due to the subjects treated.

hile we were preparing a second article on *Siluria*, it occured to us we could much relieve the technical character of our explanations if ombined a tour over the Silurian districts with the geology itself. In r to accomplish our views more effectually, we at once set out to walk new and old ground; and we now proceed to lay before our readers ntline of some walks in Siluria which they themselves may easily take, ome notes of the geology and the localities for fossils in our route. we shall effect two purposes—one to teach the lessons of Silurian y we had in our mind, and the other to indicate such a ten days or ight's ramble as may be most pleasing and healthful.

not always that we can combine geological research with scenic of the highest order, but we shall now select a route in which both united to a high degree of interest.

ill be remembered that we spoke in our last article on the base of ole Silurian system of Murchison, as exhibited in the Longmynd f hills. These the tourist may easily reach from London by going wsbury, and thence 12 miles by another railway to Church Stretton, pshire. Taking up his quarters there at the neat Crown Inn, he ly forth, and find himself at once upon a heap of shaley stone, which ct, Longmynd shale. Standing on top of this heap, the spectator a series of hills, which surprise him by their beauty of arrange- d boldness of smooth outline. If he will ascend some of them, he much gratified with the prospects from their summits. Keeping ongmynd range first, he may ascend by a winding path over the about three miles to the Longmynd Pole; thence he will gain such nsive prospect, as rarely falls to the lot of travellers in England. returns he will remember that he is treading all the way upon im- y thick rocks, showing no (or the very scantiest) signs of ancient the form of fossils. In an excavation near the town he will see f shale everywhere bare of shells, or marks of any kind derived from existence. To compensate him, however, for loss of fossils, he cend other hills, particularly the Caer Caradoc, a bold promon- hill, or mountain, about three miles from Church Stretton. It de- name from Caradoc (or Caractacus), a renowned king of the ancient who valiantly defended his country seven years against the Romans, at length defeated. Tradition affirms that he once lay hid in a this very hill, and saw his enemies, who were in search of him, pass ave, without suspecting who was so near them. Though afterwards ronsly delivered to the Romans, and led in triumph to the Emperor s, then at York, his noble behaviour and heroic but patriotic speech for him not only his liberty, but also the esteem of the Emperor

If the tourist can read Tacitus in the Latin, we recommmend peruse the historian's account of Caractacus (both terse, as is the Tacitus, and epigrammatic), and he will be prepared to ascend the radoc with interest. The view, however, is not equal to that from gmynd Pole.

ne who knows Malvern will be struck with the similiarity of Church to that place, and if the same pains were taken with the Shrop- wn as have been taken with the famous Worcestershire town, we le doubt that its dull streets would be crowded in the fine seasons, beautiful vicinity scoured by health-seeking visitors and jaded our great towns. For our part, we rather prefer Church Stretton, the scenery decidedly more varied and bold, while the air is exhilarating.

place had been named to us by two eminent geologists as a good he lower Silurian fossils, but, as in other cases of named localities, wards found that the vicinity for about three to six miles was in- and within that range the Caradoc (so named from Caractacus) e may be met with. The railway station-house is built of fossili- ndstone, brought three miles from the town. A curious *altered* conglomerate is found at Hope Bowdler Hill, containing small f slate, quartz rock, felspar, &c., bedded in a crystalline felspathic he alteration has been produced by an amygdaloidal greenstone, ith other bosses of rock, is intruded into the sandstone in this and s. We could not succeed in obtaining any good fossils, though Edward Forbes, the eminent naturalist, found some remains of -fishes in the neighbourhood.

ing to Wellington, the tourist might make a diversion to Much near which is Wenlock Edge, a spot where the rocks, called Wenlock Shales," are prominently developed. Of course, towns, nd rocks do not lie in geological succession; and hence in ram- nt we get out of geological order very soon, and have to trace e our steps to make the geology and the topography comport. we shall not stay here now, but go on to rocks which are con- be of the same age as the Caradoc sandstones—namely, what the Bala beds. These are so named from the Lake of Bala, lake in Wales; it is in Merionethshire, and is about four miles nd averages half a mile in breadth, while its depth is consider- n some parts very great.

the banks of the lake are flat and naked, and the scenery in the neighbourhood tame and uninteresting, the view of the moun- e distance is grand. The lake is fed by a number of streams ough a vast extent of mountainous country, which being some- enly augmented by rains, so speedily increase the water of the eir strong currents, that it occasionally overflows its banks, and uctive floods in the surrounding country. Adjacent to the ge tracts of impure, compact, grey limestone, displaying a semi- y character. The limestone is about 20 or 30 feet thick, and arises from the original mixture of ordinary sediment with always fossiliferous, and, indeed, is made up in great part of Silurian life. It abounds in numerous casts of *Orthis Actoniæ*. ever, from this neighbourhood, we find in other parts rocks of e, but a very different appearance. They consist of fine sandy nd felspathic masses, which make good wall-stones, and are er they occur for such purposes. The beginner in geology would be much interested in finding, as we have found, these fine sandy beds on the summit of Snowdon, and also in the neighbourhood of the Vale of Llangollen; in each place characterised by the same fossils, and by a peculiar distortion in those fossils which indicates to us the original formation of the rock. This we must endeavour to explain in our next article, when we shall take the reader into a lovely valley, whence we have just returned, having there explored the Bala beds, and obtained some fossils, which we shall describe, and which are amongst the earliest instances of organic existence upon the globe—at least, as far as we at present know.

* See Supplement to *Mining Journal*, May 21, page 369.

THE GUNPOWDER MILL.

BY SEPTIMUS PIESSE.

On the front of an old-fashioned house in Lombard-street are inscribed the ominous words "Gunpowder Office." Busy as the people are in that busy street, it is remarkable to observe with what apparent care the passers-by choose the opposite side of the way in preference to steering their barks close to so seemingly dangerous a fort. But they need have no fear, for scarcely more than a few ounces of powder, by way of samples for merchants, are ever there.

While you are now comfortably seated by the fire-side of your pleasant hearth—where the ashes are swept up so neat and so clean that it is offensive for a cinder to fall upon; now, that the tea things are cleared away, and Mamma is at peace for a little while; now that "Baby" is asleep, and the young children are "put to bed," and the boys are quiet, working out their "exercises" for to-morrow—which is not a half-holiday; while, I say, you are thus happily and securely placed in body, I will conduct your other, or spiritual, self to those regions where truly every step is fraught with danger, and thus we will take a trip from the Gunpowder "Office" to the Gunpowder "Mills," at Twickenham.

People go down to the sea in ships, and return; people go up in a balloon, and are again seen walking about at Cremorne; people go into deep mines, penetrate the caverns of the earth by being "let down" in a basket suspended by a most spider-like woven cord, and are again seen on the "face of the earth," entering the *Mining Journal* office in health and in vigour. But that people should go into a gunpowder mill for "mere curiosity," and should ever be heard of again—beyond the seasonable record, during the parliamentary recess, when newspapers are hard up for a paragraph, of "Terrible Explosion at a Gunpowder Mill"—does appear to me more astonishing than the most ideal fiction I have ever heard my brother tell, and he was a sailor that could spin a most hair-breadth yarn. Yet here I am safe and sound, having passed something in comparison with which the leader of the "forlorn hope" is perfect security. But this "spiritual self" of your's is a great hero: he can go anywhere, and do anything; and if you will only leave your body at home it will save Mrs. Adam the trouble of looking for the last life insurance receipt: we can thus travel without any "unpleasant reflections." Nay more, let us expect a "pleasant journey." So now come; at 12 o'clock, slowly passing the Mansion House, you will see a white painted omnibus, on which is lettered "Richmond, Twickenham, Bank," words that will recall to memory so many happy associations.

When comfortably seated beside the coachman, Davis, time will be pleasant enough. Just prick him by saying—"That off-horse of your's jibs, don't he, Davis?" That will be enough, Davis will reply to you, and to his infinite satisfaction. Having started him (Davis) you will hear the quadrography, life, history, and career of every "os he's druv" since he has been on the "bus" these 14 years. There will certainly be a little diversion from the legitimate thread of the story, by a little autobiography of how he himself was nearly killed three times while riding horses that no one else could, at the time he was "in service" of the Hon. Pelham Lennox; also by the change of cattle, when you arrive at the Broadway, Hammersmith, and the necessary invitation of "what will you have to drink, Davis?" "Well, if I *must* have anything, a little drop o'rum soots me as well as anything, thank'ee, Sir;—and here's your health." "Why, Davis, how is it you're not smoking," says a gentleman, brimful of familiarity? "Why, Sir, I've had a bit of a cold, so I left off smoking since I left Knightsbridge, and found my cigar case empty." At this invisible joke probably you will be afraid Davis has committed suicide, so desperately does he wheese, laugh, and become black in the face. Here you will observe, if you have not done so before, the most gentlemanly of omnibus conductors, and although Short be his name, yet he is tall and slim by nature. "Quite ready, Sir, but don't hurry yourself, Sir; only to-day we are about five seconds behind time, and our company, Sir, prides itself on punctuality."

Rapidly we pass Turnham-green, and over Kew-bridge. The Botanic Gardens, presided over by the enthusiastic Sir Wm. Hooker, are now in view, and the fragrance of the early spring flowers blend with the fitful air. The scene now rapidly changes; Richmond Hill and the "Maids of Honour" cake shop are now in full view; over Richmond-bridge, and you have seen one of the "beauties of the Thames." A gradual wind of the road and we enter Twickenham, passing the "Ait" and the old church (that Alexander Pope loved so well) on your left.

Short lives at the further end of the green, and so we will ride as far as he goes. "Very good, Sir: we stop at the 'Fourth Cross,' and there you will alight." But our direction to the Gunpowder Mill is requisite, and that Mr. Short will give you. "Just up here, Sir, turn to the right, through the Paper Mill-yard, into the Whitton-road, then to the left a quarter of a mile, and you will see the post—To Hounslow ☞ on your right; bear again to your left for one hundred yards, and you will cross the high road to Staines; then the lodge at the gate which leads into the mills is right before you." Bearing this direction in mind, you start from Mr. Short's house; and now fairly by yourself, probably, although determined to go there, you may, like myself, begin to have some forebodings of evil attending the expedition.

However, the glorious spring air imparts fresh life and vigour from the walking exercise. You are now in the Paper Mill-lane, stalwart and majestic elm trees on your right, and Sir Wm. Clay's mansion and park on the left. There is still the ladder in the walnut tree, reminding one of its uses when the nuts are ripe; there are the fowls scratching and pecking at the rick; the dasies and harebell deck the meadow—it is "the country." Here is the Paper Mill; splash, splash, splash goes the wheel, and the stream flows as calmly to it as though it knew the dignity of labour. Here the waste and refuse of the clothing of people in yonder city is being converted into paper, the like upon which this is printed; but we have not time to pry there, though it would be a day well spent. Through the turnstile and along the footpath leads us into the Whitton-road. The tall chimney stacks now in sight are at the Gunpowder Mill; so keep them in view, and we shall be sure to travel right. A little walk and you are within hearing of the engine's groans. Now you are fairly within "blowing up" distance, so have a care; if smoking, put out your cigar. Within a tract of land two miles square is another, about half-a-mile broad; and it is within the latter that the mills are at work, ceaselessly, from morning to night, from night to morning, Sunday and week-day, without end—until the next terrible explosion gives a little rest, when fresh muscles and new headpieces are quickly again directing this grim work. The first thing that will attract a stranger's attention will be the enormous cords of wood—alder wood and dogwood—for a quarter of a mile: the ominous words "fire engine" lettered on several, warns one to beware. Now you enter the nitre house, and here all appears harmless enough, boiling and steaming, filtering, cooling, and crystallising. You will here be pleased enough to see how the dirty earthy saltpetre (nitre) of India is washed and purified till it looks as fit to eat as a lemon ice. These large retorts are where the wood is distilled to convert it into charcoal. By this process not only is charcoal produced, but hundreds of gallons of tar, and also acid water. This acid water, in plain truth, is weak vinegar, and has only to be freed by a few strokes of chemical magic from the tarry particles now floating in it to become the white wine vinegar so tastefully labelled at the great pickle shops of Soho-square and Piccadilly.

Pass we on. Here the sulphur sold to us by King Bomba, and vomited out from the earth's stomach by the fire-belching mountain Vesuvius, is ground, sifted, and rendered fit to enter the warrior's mixture. The nitre, the charcoal, and the sulphur are all pretty harmless in their primitive states, "but when rogues meet, then let honest men beware." So now to the first mill house. The rumbling, the rattling, the clanking, the screeching, the heaving, the wincing of powerful machinery, overcoming obstacles, are now about as pleasant to hear as an Atlantic steam-ship fighting against the storm-waves, and you on board of it. An engine-house, boiler, furnace, and chimney,—in the very centre of a gunpowder mill! But so it is; one mighty axle passes from the engine-house to six grinding-houses—three on the left, and three on the right. We will enter one of them; it is about the size of a small cottage; on the floor is a monster chemist's mortar, and inside it, in lieu of pestle, there roll two mighty stone wheels, cased with iron tyres, weighing more than 2 tons each. Forty pounds of mixture—sulphur, nitre, and charcoal—are put into the mortar. Over and over this the wheels roll for eight hours before it is considered smooth and fine enough. Every two hours it is "liquored"—that is, a little water is sprinkled over it from the rose of an arrosior or watering-pot. At the end of eight hours, black looking demons will appear and carry off this 40 lbs. of meal (it is now called "meal") to the corning house. Here the meal from all the said grinding-houses is brought together, and subjected to immense hydraulic pressure, so as to form "cakes." Each cake is then cut into slices, and each slice forced through little sieve-like apparatus, which divides it into "grains." The newly-made grain powder is, however, still too damp for use, and must be dried. To do this the powder is spread out on trays that hold about 10 lbs. each, and is then placed in the drying house, which is, in fact, another cottage of wood construction. By the side of this building there is a small furnace and boiler for generating steam. This steam passes through convoluted pipes within the drying house, zig-zag between the racks that support the trays of gunpowder. Proper valves are arranged so as to prevent the pipes becoming too hot. Finally the powder has to be made genteel and respectable, with a bright polish on its face, fit to appear into society. This is effected by passing first through the dusting house. Here all the fair formed "grains" are sifted away from the "dust;" and so very dangerous is this operation that a large wooden screen is erected all round the house, in order to keep cloud-like dust from being wafted by the wind towards any of the boiler furnaces, for the slightest spark falling from the chimney stacks into the dusty cloud would explode the whole. It being thus necessary to keep the dust within a limited space, the men employed in the work are exposed to its noxious influence. Lastly, the powder is carried to the glazing-house. Here it is put into barrels of about 100 lbs. each, together with a few ounces of black lead. Each barrel is fixed on a kind of spit, and made to revolve on its axis until, by mutual abrasion, every grain has the black metallic lustre familiar to all who use the "shooting iron." We have said the powder is carried from this house to the other house: now, all these "houses" are but cottages, or rather enclosed wooden sheds, of the lightest possible construction; so built, for obvious reasons, that should any accident occur the whole thing would blow away. The "houses" are separated from each other by many yards, even distant an eighth of a mile. By thus separating the buildings there is, of course, less danger in case of fire.

Through the land on which the Gunpowder Mill is situated there flows a small river—the Colne—and from it are cut several canals, which by serpentine windings form wharves to several of the houses, so that when the powder is sent from one to another it is carried by boats, a means of transit attended with the least danger to those transporting so dangerous a material.

Advantage is taken of the abundance of water-power to do a great deal of the work at the mills; indeed, before the demand for powder became so great the whole work was put into operation by the motor thus at hand.

Powders of various textures are here produced, which require grinding from six to eight hours for each charge of 40 lbs. Every change then, as an average, occupies seven hours. The different qualities are known as sporting powder, military or Government powder, mining or blasting powder, &c.: 40 lbs. of powder every seven hours is equal to 960 lbs. a week; this multiplied by 10, the number of grinding-houses at work, is equal to 9600 lbs. a week, 85½ cwts., over (or say) 4¼ tons weekly, that is 220 tons annually—220 tons of gunpowder made yearly at one manufactory. What becomes of it? Leaving the matter of the manufacture of gunpowder out of view, this little plot of land becomes interesting to the ornithologist. We need scarcely say "shooting is not allowed upon these lands," and well the birds seem to know it, for they covey and nestle here enough to compensate for all the destruction of their specie by the make of sporting powder within its precincts. "No strangers are admitted," so that if you want a rural day—a few hours quiet in the country, to botanise, to fish, to catch butterflies, or trap birds, get leave to enter the grounds of a powder mill.

Gunpowder is the guard-chain and strong bolt which keeps the barbarian thief from entering the precincts of the peaceful and industrious, and is, indirectly, the great peace constable of the world.

Prior to this clever chemical invention, the wars of sects, classes, or nations were vexatiously prolonged. Charlemagne spent a long reign in perpetual war. During the Roman empire war scarcely ceased, and so it had been with all the preceding nations. The history of the world is a history of shifting wars. Prior to the invention of gunpowder, or more correctly speaking, prior to its application as a means of warfare, a prolonged peace, such a peace as the 40 years between the Napoleonic wars and the Crimean war, has scarcely been recorded. The fact is, that when men discovered the terrible effects of this new engine for their destruction they began to think more seriously of war.

The old battles, fought without gunpowder, were not half so much to be

d eaded as a modern war. The battles of Ptolemy and Ramises, Kings of Egypt, of Nebuchadnezzar, Babylon, and Xerxes, of Susa, were of a class that may be compared to a mighty host of robbers sacking a country with little or no danger to themselves. What a contrast do such battles present to the terrific encounters at Inkermann and Sebastopol, at which thousands of men were killed after but a few days of contest. All men fear and respect gunpowder. Nations spend millions of money in building fortifications, and in endeavouring to make strong holds impregnable to the effects of this simple mixture, but all their efforts are without avail. No fortress that has ever been erected can hold together against bomb-shells, rockets, and balls flying through space with lightning speed, urged on by gunpowder. The source of power in gunpowder lies in the saltpetre; this substance, termed nitrate of potash, consists of nitric acid and potash. Now, the nitric acid is, as it were, an immense volume of atmospheric air, condensed into a solid, ready on demand to assume the air form by the touch of a spark. When sulphur and charcoal are mixed with nitre (saltpetre), and a spark is applied, the sulphur ignites, setting fire to the charcoal, and concentrated air is supplied to the substance by the decomposition of the nitre. The air condensed therein instantly unites with the combustible, and the result is an intensely hot gaseous compound, two thousand times the bulk of the original solid.

The English Government gunpowder is composed of 75 parts of nitre, 15 charcoal, and 10 of sulphur. The Russian military powder contains 73¾ of nitre, 13¼ charcoal, and 12¾ sulphur.

But hark, hark, hush! my flesh creeps, my blood thrills, my pen quivers in my hand: the echo's boom of "another explosion" shakes the table upon which I write. Alas! poor May; and jovial merry Atley: but 12 hours since I left you;—where are you now?

AUSTRALIAN MINES.

BURRA BURRA.—The yield of the mine continues undiminished, the quantity of ore raised during the last six months having been 7423 tons, or 1119 tons more than the quantity raised in any similar period for the last seven years. The quality has been equal to the usual average, being from 23 to 24 per cent. of copper. During the last half-year the directors have sold 604 tons of copper in the colony, at an average of 98*l.* 7s. per ton, and they have also exported to Britain and India for sale 540 tons more. In explanation of the financial statements appended to the report, the directors show the cost of producing 6304 tons of ore realised to have been 10*l.* 11s. per ton. This ore sold at 13*l.* 8s. 8d. per ton, leaving a profit of 3*l.* 7s. 8d. per ton, or 5s. 11d. per ton more than the profit realised on the ore sold in the preceding six months. The ascertained undivided profits of the company on March 31 last amounted to 51,436*l.* 12s. 11d., and the estimated profits of produce undisposed of amount to 42,494*l.* 5s. 10d., making a total balance of profit for division of 93,930*l.* 18s. 9d. The directors propose setting apart 24,640*l.* of the ascertained profits of the company for the payment of two dividends of 5*l.* per share each, on June 1 and Sept. 30 next. The captain's report of the mine is most encouraging, and leads to the hope that very large quantities of ore ground will be opened in the lower levels when the new pumping-engine, now in the course of erection, is got to work.

NORTH RHINE COPPER MINING COMPANY OF SOUTH AUSTRALIA.—April 18: The local committee forward bills of lading for 385 bags of copper ore, weighing 304 cwts. (average percentage 25), which had been shipped for London, per *Verulam*, which left Port Adelaide at the end of March, together with a box of specimens. In the report from the captain of the mine, dated April 3, he mentions that 120 bags, termed No. 1 ore, were ready for delivery, besides 19 bags of No. 2, and several tons of ore not dressed; but difficulties had been experienced in procuring drays for conveyance to the port, in consequence of the farmers requiring them for carting their wheat. Respecting the progress of the works generally, he says:—"We shall speedily put down Nicholl's shaft to the 20 fm. level, and soon see the large lode at that level; also at Rodda's shaft. We have put men to drive west from the 4 fm. level at Rodda's shaft, between Nos. 1 and 2 shafts, to cut a western branch, which turned out a good deal of copper ore in the first working. The whim is at work at Nicholl's shaft, and while the water is being drawn, we are washing No. 2 hutch work, from which we shall get several tons of ore. I would suggest that for some time to come the men on ore ground be put on tribute. At Wattle's shaft there is a very good lode of carbonates."

KAPUNDA.—Adelaide, April 18: The tutworks in hand were going on satisfactorily, and the Buhl engine-shaft had been sunk 5 fms. below the 50 fm. level. The ground in the end of this level, driving west from Lanyon's shaft, was becoming softer, and easier work was expected. In the tribute department the quantity of ore from the old workings continue at the average, and the quality improved during the last three months. The February ores proved to be 238 tons, of 22·277 per cent.; average produce equal to about 55½ tons of pure copper. Necessary repairs at the smelting works had impeded the manufacture of copper; 65 tons were ready, which, together with the further make of the next 14 days, would be shipped by the *Admella* steamer for Melbourne, in transit for England. On the repair of one of the smelting furnaces, 30 tons of copper had been taken out of the bottom.

BON ACCORD.—April 18: The indications and prospects of ultimate success at the mine continue to improve. The water has not much increased. The small engine, with its increased power from the additional boiler, is keeping it under, and still allowing the operations to be proceeded with in the 30 fm. level, driving west from engine-shaft. The committee of management were to purchase the large 50-inch cylinder engine offered to them by the Burra Burra Company, the latter affording to the purchasers every friendly facility in the way of carriages, men, &c., for the removal of the engine across the boundary line from one mine to the other. The following is an extract from Capt. Jeffrey's report:—"There is (March 16) no change of importance in the ground at the 30 fm. level, driving west from engine-shaft, since I wrote on Wednesday. It is letting out a great deal of water, which indicates our near approach to the lode. We have cut (March 26) the lode, and are into it about 2 ft. It is of a highly promising character, with rich stones of ore. In the 30 fm. (April 6), driving north from engine-shaft, the lode is very large, and orey throughout, but not enough to save. I have this day broken some stuff, and sent you a box of it, containing a sample of the lode for 6 ft. wide. The lode (April 9) is large, with good stones of ore; ground favourable for driving; driven this week about 3 fms. The lode in the winze (March 16) is much the same. At present (March 26) the whole size of the lode cannot be seen, being too large to be carried; we can see 4 ft. wide, ore throughout. By the appearance of the lode in the 30 fm. level and the winze, I think we have every reason to expect a course of ore at a deeper level." The following is an extract from the letter of the chairman of the committee:—"Making allowance for the sanguine temperament of miners, there cannot be a doubt that we are now on a lode which gives great promise of leading to good results. I am strongly of opinion that the lode we are following down the winze is not the same as that which we have cut in driving west from engine-shaft, but that they are different branches, converging to a deposit of ore at a lower level: it would be at variance with all precedent and experience if such does not prove to be the case. Capts. Jeffrey and Killicoat are still strongly of opinion the main Burra lodes lie between Grainger's and Jeffrey's shafts; it may possibly be so, but I am as strongly of opinion that something good lies between Elder's and the engine-shaft; at the same time, I do not expect extensive deposits or lodes of solid ore to be found until we get much below our present level. Our chief object in driving in the 30 is to ascertain the dip of the lodes, to form a guide for future operations when the big engine gets started. You are advised that we had come to the determination of purchasing either the engine lying at the Burra or the one erected at Tungkillo. The report of our consulting engineer being unfavourable to the latter, we have all but concluded the purchase of the one at the Burra; it only awaits the delivery of the mail from Kooringa, to settle some minor matters of detail, when the bargain will be concluded. * * * You may rely on strict economy being studied. The committee act upon this principle—not to authorise outlay upon what may be said to be wanted, but only upon such works as are of absolute necessity for the full development of the mineral resources of the property. There are several buildings very much required, which as soon as ores come to grass must be commenced; in the meantime we are making temporary shifts."

WORTHING.—April 7: Sunk Legg's engine-shaft during the month 1 fm., ground 25*l.* per fathom, main depth from surface 13 fms. 4 ft. 6 in., where we have a good course of ore. Unfortunately, from the increase of water, we are compelled to abandon any further attempt to sink by whim power, and to wait until Legg's engine be prepared for draining the same. The engine-house is now up to receive the engine, and our engineers are making every effort to accomplish this end. Since the suspension of the shaft we have had four of the men stoping the bottom of the 10 fm. level, north and south of Hocking's shaft, where we have a good lode. Ore sampled during the month 7 tons 1 cwt.—viz., 5 tons 20 cwts. produce 12½, and 1 ton 3 cwts. produce 16⅝, the value of the former being reduced from the black ore carried off in the water, the slimes of which I have not yet prepared for smelting. Our smelting furnace having undergone repairs, we now propose bringing our regulus into copper, after which we shall again smelt ores. I hope to have a much better smelting this month. We have four men now stoping the bottom of the 10 fm. level north and south of Hocking's, with four men on tribute, at 10s. in 1*l.*, in the back of the 12 fm. level. Having cleared up Hill shaft, on the western workings, I find the same to have been sunk 10 fms. 3 ft. on the course of the lode; lode poor, ground favourable. We have also sunk to the north of German's workings, but finding the lode not indicating returns through any shallow workings that are now made, I purpose deferring any other trial until we shall have made up our minds to prove the same by more deep and permanent working. Our leat for bringing the water from Salt Creek, to supply our engine pool, will be this day complete, and we shall at once prepare for raising stone for boiler-house, &c. I fear that great delay will take place in the time of working our engine, through want of boilers, the same not being not likely to arrive from England in time. If a boiler were to be had in the colony I have no doubt it would relieve us of three months delay.

ENGLISH AND AUSTRALIAN COPPER.—April 18: Mr. Hamilton says, that seven furnaces and two refineries were at work, "five of the ore furnaces on coal, one on coal, roasting, and one ore furnace on wood." The cartage has nearly ceased between the Burra and Gawler for the season. The ore shipments have nearly closed for the time, owing to the winter. The manager states that about 6500 tons have been shipped to this country during the past year, and at a very low freight. The stock of coal and wood was 7000 tons—say, 1000 tons coals and 6000 tons of wood. The quantity of copper made to date was about 1750 tons.

PORT PHILLIP AND COLONIAL GOLD.—Melbourne, April 13 and 16: The operations at Clunes during the month of March showed a great improvement over the previous month; the quantity of quartz crushed during the four weeks amounting to 1630 tons. The receipts were 3618*l.* 12s. 8d., and the expenditure 1992*l.* 3s. 10d., showing a profit of 1626*l.* 8s. 10d. The amount of the company's percentage (5 per cent.) on gold raised in the alluvial workings during the month of March was 98*l.* 12s. 8d., which is inclosed in the above receipts. Owing to the want of water but little of the machinery had been at work during April; heavy rains, however, having fallen, this difficulty was at an end for the season. The resident director has forwarded a remittance of 3000*l.*, thus completing the amount required for a second dividend.

COMPARISON BETWEEN MINING IN BRITAIN AND MINING IN SOUTH AUSTRALIA.—The following letter appeared in the *South Australian Register*:—"SIR: The Supplement of the *Mining Journal* of Jan. 1 contains some statistical information on copper mining in Great Britain, gleaned from the returns of Mr. Robt. Hunt, F.R.S., by which we learn that in 1857, 157 mines in Cornwall and Devon returned 192,135 tons of ore, of the average produce of 6⅞ per cent.; metallic copper, 12,179 tons 18 cwts. 1 qr. 2 lbs. We also learn from the same Journal that 45 of these mines paid dividends in that year, consequently 112 of them were worked for their costs or loss; probably very many of them consumed large amounts of their adventurers' capital. From the Treasurer's return of exports from this province during the year 1858, we find that 2389 tons 16 cwts. of metallic copper, and 6697 tons of copper ore, were sent away. Taking the average produce of these ores as low as 20 per cent., they contained 1339½ tons of metal, which, added to the amount of smelted copper, shows that our mines produced 3729 tons of that metal during that year. From this it appears that South Australia supplied the English market with copper—and that of the very best quality—approaching in quantity nearly one-third of the produce of the Cornish and Devon mines. It should be understood that while not more than four or five of our mines have contributed anything to our exports, at least nine-tenths of them have been supplied from two mines alone; and it should be extensively made known that the deposits of copper in South Australia, as compared with any that have been found in Great Britain, are as a full bucket to a single drop. If the capital, skill, and labour that were expended on the 112 unprofitable mines in Cornwall and Devon, or a part of them, had been employed in this country, how much better would it have been for all parties concerned? The adventurers would have received ample returns on their capital, and skill and labour would have received threefold the remuneration they can ever aspire to in the old country, while they would have found all the necessaries and luxuries of life most abundant, and quite as reasonable, if not more so, as in England. These are facts that require no other confirmation than that to be seen in the vast extent of valuable land that has been purchased and brought into cultivation by men who have acquired the means to do so, through employment in the mines. And it is an undoubted fact that one of the circumstances that have contributed to retard the more extensive working of our mines has been the retirement of so many men of skill and experience in that business upon their becoming landed proprietors. On the score of the healthfulness of the Australias, and their perfect suitableness for the uninterrupted pursuit of laborious occupations by Europeans, little need be said, for our mortality returns show that the tenure of life here is perhaps better than in England. There it has been long since ascertained that the average death of infants in the first year rather exceeds 20 per cent. Last year's return for South Australia, just now published, shows it to have been here rather less than 15½ per cent. In England, deaths in the entire population are about 1 in 44½ persons. Here, last year's return shows them to have been about 1 in 65. However, this last can hardly be considered a fair average, as very few of our immigrants have passed the prime of life.

It is to be hoped that the few points of general interest sought to be established may be depended upon:—1. That the extent and richness of copper deposits in South Australia are almost without limit.—2. That the facilities for working mines in this country are very great.—3. That the climate is most favourable for such operations.—4. That, owing to the exceeding richness of our ores, high rates of remuneration have been, and will continue to be, derived by all persons employed about them.—And lastly, That South Australia offers to persons who save up a little capital, while thus employed, the greatest facilities for securing therewith a position of independence as landed proprietors that never could be arrived at in the old country.—PROGRESS: *March* 31."

"BLACK SAND."—A new source of wealth has recently been developed in the neighbourhood of Echunga. A few days ago it was stated that Macklin's party, who were digging a deep hole in the Gum Flat, near Warland's, had sunk through a seam of "black metallic sand" 12 ft. in depth, and that a portion of the sand had been brought in to the Government that it might be ascertained whether it consisted of tin or of iron. We were satisfied that it was iron, because a great many samples of the same kind of sand from different parts of the colony have been tested and found to be iron. But there is a circumstance connected with the sample from Gum Flat of considerable importance to the colony. It was handed by the Commissioner of Crown Lands to the secretary of the Burra Burra Company, to be tested by their assayer at Kooringa, and his report discloses the gratifying fact that it contains *five and a half ounces of gold to the ton*. This produce would render it exceedingly remunerative for working even with rough machinery, as we have it on undoubted authority that a quantity of gold considerably less than a quarter of an ounce to the ton would pay the working expenses. And we hope it will be encouraging to persons engaged in gold digging, and others desirous of engaging in it, to know that this black sand exists in almost fabulous abundance in every river and creek which has its sources in the hills and ranges, extending from Mount Crawford to Cape Jervis. It is particularly abundant in the South Para, the Torrens, and the Onkaparinga, and all the hills, flats, and gullies adjacent thereto, and with the aid of washing machinery might be raised in thousands of tons. We hope that samples from various localities will at once be tried for gold, and that if they are found as rich as the sample found at Echunga, this new species of gold mining will be prosecuted with vigour and success.—*Ibid.*

Advices had been received of the sailing from Melbourne of six more ships, with 129,485 ozs. of gold, worth about 518,000*l.* Including 507,000*l.* known to be still at sea, by six other vessels, reported by the last mail, the aggregate is raised to 1,025,000*l.*, of which 358,000*l.* is now due, or nearly due. Subjoined are the particulars:

Name.	Sailed.	Days at sea.	Ounces.	Value.
Shooting Star	Feb. 28	98	16,738	£ 67,000
Monarch	March 1	97	42,848	171,400
Chili	March 9	89	15,029	61,100
Essex	March 12	86	14,030	56,100
Indian Queen	March 12	86	2,507	10,000
Owen Glendower	March 15	83	35,411	141,600
Annie Wilson	May 16	82	5,338	21,300
Shalimar	March 25	73	24,390	97,600
Nimrod	March 26	72	5,264	21,000
Suffolk	March 29	69	47,931	191,700
Result	April 6	61	36,401	145,600
Ocean Chief	April 9	58	10,162	40,600
Total			256,019	£1,025,000

MINING IN JAMAICA.

WHEAL JAMAICA COPPER COMPANY.—Capt. Francis, May 10: Charing Cross Mine: The lode in the end of the 65 north has been driven to date 13 fms. 3 ft.; the first 10 fms. through a lode varying from 2 to 3 ft. wide, with a branch of ore from 4 to 6 in. wide, and the last 3½ fms. through a lode from 3 to 4 ft. wide, with a branch of good saving work from 1 ft. to 18 in. wide. At present the lode is 4 ft. wide, composed of a very light porphyry, carrying two beautiful walls, and thickly spotted throughout with yellow copper ore, and against the hanging wall we have at present a branch of good saving work 6 in. wide, and looking kindly for further improvement. The shaft is now down 4 ft. below the 50, making a total sunk from No. 2 level of 20 fms. 2 ft.; the ground is of much the same character for sinking as for some time past. I hope to complete the road from the mine to Retreat in two weeks from this time, when the communication with the mine will be perfect all the way to the shipping port of Old Harbour: 33 barrels of ore have been shipped, per *Wilhelmina*, for Liverpool. Mr. Barrett, the Government Geologist, has lately inspected the mine, and stated "that mining operations ought to be carried on actively; that the lode has continued gradually and constantly to improve as the adits have been driven; that the copper pyrites are not disseminated in small quantities, but concentrated in bands on one side of the lode, which is without faults or slips, the direction of its strike and angle of its dip being, therefore, constant," thus showing that it is an enterprise well worthy of prosecution, and only requiring perseverance and the aid of machinery to be attended with most successful practical results; indeed, we can confidently assert that the appearances of the mine throughout were never so favourable as they are at the present period.

HOPE SILVER-LEAD AND COPPER MINING COMPANY.—Capt. Collom, May 10: Hope Mine: We have again commenced to drive the deep level with vigour, having completed the holing of the rise to the surface, which has effectually ventilated the level; we hope in future to drive at the rate of 10 fms. per month. The sinking of the whim-shaft from the 30, to communicate with the deep level, also progresses pretty fairly; the water does not appear to increase much, and the lode when occasionally shot into a little in sinking of the shaft yields stones and spots of copper, lead, and zinc ores as before. The driving of the 30 north-east also continues, and I am desirous to extend the level some considerable distance further in that direction on the course of the lode, for the purpose of endeavouring to intersect other copper lodes, which I have lately discovered on the property to the north-west of the mine, and which, from the apparent courses of the same, are expected to intersect the present lode at from 50 to 100 fms.; and 200 fms. ahead of the present end of this level there appears to be a series of copper lodes traversing the property at the part referred to, and it will be an object of great moment to obtain some further knowledge in reference to their courses, character, and position relative to the present workings, and the expected intersections of those lodes with the one we are at present operating on. The whole workings of the mine are now again progressing cheerfully and satisfactorily, with every present appearance of our being enabled so to continue them.

RIO GRANDE MINING COMPANY.—Capt. Arthur, May 8: Portland: No change to report. Providence, in immediate contiguity with our Rio Grande properties, and now being worked by an American company, has proved very rich in copper, just as our mines at Chesterfield, Roslyn Castle, Brookdale, and Laurencefield have done. The last ore taken from Chesterfield, No. 3 above, gave 27·33 per cent.; and at No. 4 above, 28·25 per cent. fine metallic copper. Messrs. Barrett and Sawkins have gone to the east end of the island, and will again visit these mines very soon; their distance from Port Antonia is 8½ miles, and were inspected and reported on by Mr. Sawkins in 1856.

ELLERSLIE AND BARDOWIE MINING COMPANY.—Capt. Holman, May 9: Salisbury Plain Mine: The water at the shaft and deep levels has again been most troublesome, and the workings have been retarded in consequence. The nearer we are to the lode the more difficult will be our operations from the water until our vein itself is struck, and becomes drained in process of time. I fully expected to be in a position to report the intersection by this packet, and think there is little doubt I may do so by the next, but these natural obstacles are of frequent occurence in mining. Mr. Barrett, the head Government Geologist, visited the mine, and has expressed himself very favourably of it. He is now in Portland, where the geological survey of the island is commenced.

[We published the Clarendon Consolidated Mining Company's report last week.]

ST. JOHN DEL REY MINING COMPANY.—Advices from Brazil:—

Morro Velho, April 23.—The produce for March amounts to 25,525 oits. = 245·218 lbs. Troy:—

	Oits.	Tons stone.	Oits. per ton.
From general stamps	15,578	from 5474·8 = 2·845	2·923
" Herring (East Cachoeira)	5,277	1342·4 = 3·931	
" Susanna (55 fm. level)	158	249·6 = 0·633	
" Addison (champion ground)	1,733	713·2 = 2·429	
" Arrastres	1,198		=0·154
" Praia	1,581	—	—
Total	25,525	7780·0	3·077

The above produce is not so good as that for either Jan. or Feb. The stone from the East Cachoeira has not yielded so well as the average of these months. There has been a much greater proportion of killas in that raised from the Bahu; nor has the stone from the East Quebra Panella been so rich as in the previous two months. Comparing the produce for the three past months, it will be seen that the produce per ton, as well as per day, would lead to the conclusion that the stone has not been so rich as in Jan. and Feb.:—

Produce.	
January, 31 days	27,053 oits. = 872·74 oits. per day = 3·480 oits. per ton.
February, 27 days	23,434 oits. = 867·92 oits. per day = 3·328 oits. per ton.
March, 31 days	25,525 oits. = 823·38 oits. per day = 3·077 oits. per ton.

The above general produce includes the Praia in each month, but this does not materially affect the comparison. The yield per ton is the actual result of stamping, and shows a decrease nearly corresponding with the diminished daily produce.

COST.—The produce for March, 25,525 oits., less loss in melting, 131 oits. =25,394 oits. (less duty 1 per cent., 254 oits.) = 25,140 oits., valued at 7s. 7⅝d. per oit.	£9,597	3	8
The cost for March, Rs. 73,239·633, exchange, 2s. 2¾d.	8,163	3	3
Leaving profit	£1,434	0	5

During the month of March we have used a large quantity of the heaviest description of timber in the mine; new chain and new kibbles are also included in the cost. A considerable quantity of heavy ironwork was also prepared for the set of new stamps at the Susanna. The cost of renewing many portions of the inclined planes with plates and ratchet rails, and the preparation of smiths' work for the renewal of the break of the Bahu hauling machine, have increased our cost not a little, and under these heavy items of outlay the profit shown is, perhaps, as much as could have been expected, taking into account the general quality of stone we have stamped.

SEPARATIONS.—Three separations have been continued during the month of March, as will be seen by the table of produce given herewith. The yield from the stone being stoped from the bar of the lode under the 55 fm. level is only 0·633 of an oit. per ton. The treatment of this stone is now discontinued, and will not be resumed until the present poor bar is stoped through. Next month a separation of the Middle Cachoeira stone will be commenced at the Susanna stamps, with the view of testing the yield of the more quartzose stone recently appearing in the stopes in that part of the mine. The separate treatment of the East Cachoeira and Champion ground stone will be continued as at present in the Herring and Addison stamps.

REDUCTION DEPARTMENT.—Stamps working, 21 days average 129·09 heads; ditto 132 heads, average 30·29 days. Arrastres worked each, 27·01 days. The quantity of stone reduced during the month is 7780 tons, producing 1832·5 cubic feet of sand, which yielded 13·06 oitavas per cubic foot. The produce for each stamp-head per diem is 5·817 oits.; ditto arrestre, 2·770 oits.; the produce of arrastre in that of the stamps, 5·269 per cent. The stamps during the month have been driven generally at their maximum rate, and without any unusual interruption. A considerable quantity of stone has been reduced, some of which, especially that from the Champion ground, has been of a very hard description, producing a larger proportion of sand than usual, though giving a small yield of gold. The arrastres have been regularly at work, but the produce is small, owing partly to the sand water being not quite so quick as during the previous months, and also not having so good a supply of grinding and paring stones from the mine as heretofore. During the month the amalgamation and other machinery has been performing very well, and the various operations of the department have been carried on with regularity.

MINE.—In the early part of this month the incline planes, ratchets, rails, runners, cross-pieces, rollers, drums; in fine, all underground work, fixed or moveable, connected with the inclines were thoroughly examined, overhauled, and have since been undergoing repairs. The essential work of this kind has all been done, and there only remains some minor jobs to accomplish for the completion of the whole. The lower part of Hurry's line is now being removed, in consequence of the change in the direction of the lower part of the walls of the lode. In doing this an angle in the line will be got rid of, and in the course of a week from this time it is expected our inclined planes will all be in as good condition as under present arrangements they can be placed in. A good deal of heavy timber work has been done in the mines during the month, and, notwithstanding these extra works, the stoping has been actively prosecuted, and 8053 wagons of stone, according to the mine account, have been sent up to the spalling-floors for reduction. No change of importance has taken place in the mines since the date of last advices. There has been an increased proportion of killas in the stopes of the Bahu and the stoping [illegible] in the western portion of the mine. The West Quebra Panella has also co[illegible] of this poor rock than during previous months. The stoping on contract keeps the miners well supplied with stone, but the present hauling power being only just equal to supply the quantity of stone required for the stamps, whenever any interruption occurs to the hauling, or an undue proportion of the stone hauled is killas, we are unable to pick the rock, as we ought to do, from the limited stock on the floors. This deficiency in the hauling power we hope, in the course of a short time, to be able to supply to a certain extent by improving and extending the present machinery used for the purpose.

GOLD EXTRACTED TO DATE.—Our produce for the first ten days of April is as follows:

	Oits.	Tons stone.	Oits. p. ton.
From general stamps	4593	from 1870·4	= 2·455
" Herring (East Cachoeira)	1451	444·0	= 3·268
" Addison (champion ground)	549	220·0	= 2·495
Total	6593	2534·4	2·601

The foregoing shows a low rate of yield from the stone stamped. The quality of the stone has been below the average, and we have not had the opportunity of picking out the killas on the large floor from the smallness of the stock there; there is, however, some reason to conclude that the stone account kept in the spalling-floor is not accurate; the quantity stamped according to that account is upwards of 250 tons per day, and that without the Susanna stamps, which during the period now stated was not at work, but being reconstructed, as already intimated in a previous part of this communication.

Morro Velho, April 28.—Gold extracted to date: For the second division of April (ten days) the produce is—

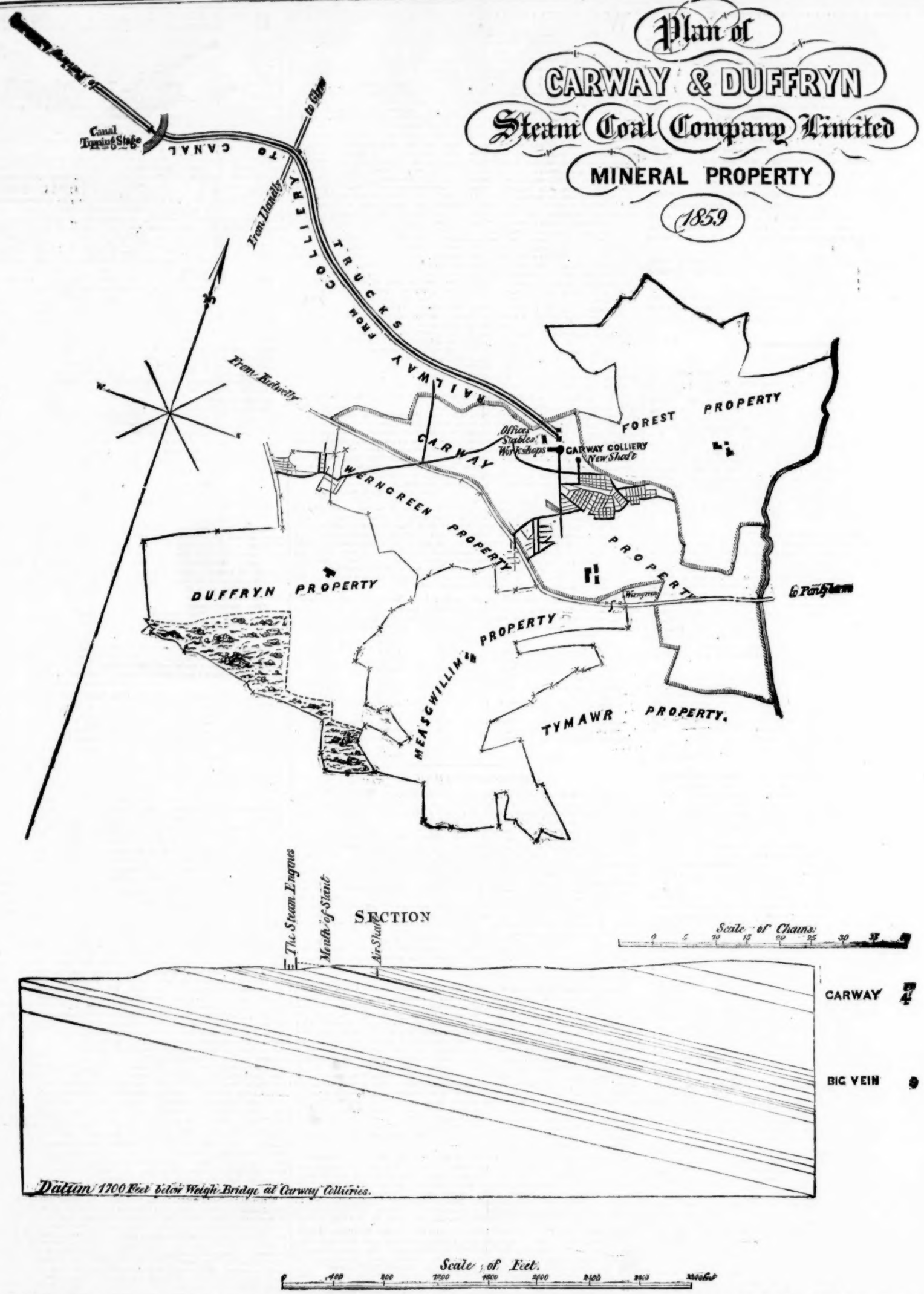
	Oits.	Tons stone.	Oits. p. ton.
From general stamps	5215	from 1834·4	= 2·87
" Herring (East Cachoeira)	1448	405·6	= 3·570
" Addison (champion ground)	559	220·8	= 2·531
Total	7222	2460·8	2[illegible]

This rate of produce is better than the first division of the month, and the stone accounts appear to be about what has been actually stamped. We have passed through the Easter holidays without any inconvenience, having kept the stamps at full rate; and at date we have a good supply of stone on the spalling-floors.

CHILI.—The last mail brings little news from the mining districts, Coquimbo and Caldera being in the possession of the revolutionists, but blockaded by the Government. Advices from Valparaiso are to the 16th April. The English in the North are safe. The account we gave of the battle of La Compania is fully confirmed. The revolutionists were posted on Mr. Lambert's rich mine of Brillador, and the Government troops, under Lieut.-Col. Silva Chaves, Intendente of Atacama, at Mr. Lambert's smelting-works. It is reported that the Government have an army of 3500 regulars, under Gen. Vidaurre, an old officer of the war of liberation, and that the revolutionists under Pedro Leon Gallo, will be at once crushed, and mining operations resumed. At present, mining and smelting operations are paralysed, except at some of the English establishments, as miners and mules are liable to be impressed; and miners and peons either join the revolutionists or abscond. The advance of Vidaurre can hardly be immediate. The old force, under Silva Chaves, was only 1000 strong; but it is said that the Government can dispose of about 10,000 regulars; whereas their whole force does not exceed 7000, and perhaps not 6000, with which they have to hold the South, Santiago, Valparaiso, and other large cities, and supply the army of the North. With less than 2000 men Vidaurre can make no effective move; and he is supposed to be in Aconcagua, drawing together his force. This will take time. In the meanwhile Gallo continues to strengthen himself in La Serena, and with all the resources of the northern provinces of Coquimbo and Atacama to dispose of, with the people generally in his favour, he, however, is not in reality very strong, being short of trained officers, soldiers, artillerymen, and arms, very few of the soldiers having joined him, and he has few disaffected or foreign officers available. His force has only one weak battalion of the line, so called, but he has now drilled others into shape. They consist of small corps of volunteers, infantry and cavalry. The quality of the Government officers and troops is not good, and they require to be very tenderly handled. The battle of La Compania was a regular Spanish battle, of great parade and long shots, lasting above four hours. The front of Silva Chaves' small force, thrown out as tirailleurs, reached about a mile; and they blazed away, both infantry and artillery, for some time. Towards the end of the skirmish they were short of ammunition for the guns and small arms. The loss of life was, however, considerable on both sides; for the Government soldiers got jammed in a bog, and then the revolutionists began shooting them down, but sustained considerable damage, most likely from the ship guns. Ramon Arancibia, the chief of Gallo's staff, has published a despatch on the battle, which is the production of a military pedant, and speaks ill for the capacity of Gallo and his staff. The general conclusion to be drawn is, therefore, that the matter will drag on a considerable time, and that it may prove fatal to the Government. Any diversion the Gallos may make in the south will cripple the Government, and prevent them from rendering effective aid to Vidaurre and his army. In the meanwhile no ship which has arrived at Valparaiso for orders has gone on to the North to load bar-copper, regulus, or ores; and the important trade between Valparaiso and the North, carried on by coasters and steamers, is stopped. The only trade going on is that with the southern provinces and with the country beyond the Andes, and some export of agricultural produce to Australia and Peru. Corn is firm, considering that the mining provinces, the great consumers, are closed. The last transactions in bar-copper at Valparaiso were $20 cash, or about 88*l.* per ton. There was very little doing, but the market was rather firm, because the copper was wanted for remittances. Nothing is being done with mining materials, excepting gunpowder. Exchange on London is very [illegible], 42d. for 90 days' bills, and freights for England low and nominal, being quoted [illegible]s. per ton. The Chilian Government having transported some of the revolutionary leaders to the Straits of Magellan as they supposed, unluckily for themselves, included Mr. Scaper, an English gentlemen connected with mining interests, whose friends supplied him with a few revolvers in his portmanteau; so that shortly after their departure he presented himself on deck before the officer of the escort, and, threatening to shoot him, compelled him and his fifteen soldiers to surrender, and the captain of the ship to tack about and take them to Peru, whence the Government obtained the first news of the result of their shipment, instead of from the South. At Coquimbo, when the mail-steamer came in, young Mr. Lambert, finding the place blockaded by the Government, and being forbidden permission to land, jumped into the sea, and swam to a boat, and so ashore.

CHILOE.—Notwithstanding the troubles, some attention is being paid to the mineral resources of the great Island of Chiloe, in the south of Chile. As far back as 1854 attention was called in the *Valparaiso Herald*, English newspaper, to the mineral indications of the island. Of late some researches have been made, more particularly by Don Fermin Perez, a native Chilian miner, who, having been on a visit, has devoted himself to explorations in the neighbourhood of Ancud, where he has discovered a lode of bronce, or copper and iron pyrites. The lode is, however, very narrow. It may be remembered that Dr. Darwin, who formed part of Capt. Fitzroy's expedition, found gold up the country. While wells were being dug at Ancud, by the direction of the Intendente, gold was found 10 ft. below the surface. Bronces are found in Chiloe of three kinds—first, a rich sulphuret of 1 drachm to the ounce, in the neighbourhood of the laguna of Cucoa. This is found on the surface. Another superficial lode is found in the interior, not so hard as the other variety. Of a third kind a lode is found in the neighbourhood of Ancud, and specimens have been sent to Santiago for assay. Expectation has long been entertained that copper will be found in Chiloe, which will be of great importance, on account of the neighbourhood of coal. Some of the smelters have long had their eyes turned to the South, and if once a good smelting work be set up in the South, there, as in Cornwall, ores will be carried to the coal, and not coal to the ores, and local smelting will cease. When the herdsmen go inland in search of stray cattle they often bring back specimens of copper and other ores as curiosities. Copper has been lately found on the sea shore, but with the lode running under the sea. Mica is found in various parts of the island, and gold embedded in quartz. As yet, however, the mineral specimens obtained from Chiloe are far inferior to those from the German colony at Llanquihue, where active preparations are being made for mining. Very good [illegible] are found in Chiloe, and large quantities of gypsum and sulphate of lime. With respect to coal, the most southern deposits are in the Island of Lemuy, whence the layer of coal extends about a mile under hard rock, to a promontory of the coal. The thickness of the seam is 3 feet. It is not of much value, as it burns rapidly, giving out insufficient heat. It is supposed to be one of the lignitic coals. In the same parallel of longitude, and about 20 miles to the north, is another seam of inferior coal, and in the same line, but still further to the north, near Ancud, is another deposit, but of better quality, which burns with a brilliant light, giving out the peculiar odour of bituminous coal. The extent and thickness of this seam are not known, as it lies on the shore at a part exposed to the northers, whence it could neither be shipped, nor could a mole be run out. In the same parallel, but yet further north, with a slight inclination to the west coal is again found in the Bay of Parga. Some are of opinion that this is part of a continuous basin of coal reaching to Lota, and that coal will be found at various intermediate points.

DEHRA DHOON.—The last mail brings advices of important discoveries of minerals, made by an officer in the Upper Dhoon, by which we understand not the Sewalik Hills, but the region nearer the Sub Himalayas; they are said to include copper, lead, iron, and salt. The iron ores are very favourable. As yet coal has not been discovered in that district. The Dehra Dhoon is a small country between the Sewalik Hills and the mountain range, on which are seated the English hill towns of Landour, Mussoorie, and the village of Woodstock, with Simla and Soobathoo not so very far off, and to the east the favourite watering place of Nynee Tal. If, therefore, these discoveries be confirmed there will be no want of capital and enterprise for copper and lead ores.



THE CARWAY AND DUFFRYN STEAM COAL COMPANY (LIMITED).

Incorporated January, 1858.

Capital £50,000, in 10,000 shares of £5 each, with power in the shareholders in general meeting to increase the capital by the issue of new shares.

DIRECTORS.

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WILLIAM SHAW, Esq., 3, Streatham-street, Bloomsbury.

BROKERS—Messrs. Webb and Gesch, 8, Finch-lane, City, and Stock Exchange.

BANKERS—The London and Westminster Bank (Temple Bar Branch).

OFFICES OF THE COMPANY,—5, GREAT QUEEN-STREET, WESTMINSTER.

This company was incorporated and commenced working in January, 1858, the well-known collieries of Carway and Duffryn, and the adjacent mineral properties, known as Forest Fawr, Waungreen, and Maesgwillim coal fields, the produce of which is well known and highly appreciated, not only in those districts, but in the London market, and in most of the ports of England and Ireland.

The collieries are situate in the Gwaindreth Valley, in the parishes of Pembrey and Kidwelly, in the county of Carmarthen, about five miles by canal from the shipping ports of Burry Port and Kidwelly (at which the company have depôts for storing and shipping their coal), about five miles from the Pembrey station of the South Wales Railway. The Carway and Duffryn Collieries have been opened some years, and during the past year this company have expended a considerable sum in further developing these valuable properties, and extending the works.

The collieries on the 1st June inst. were inspected by Mr. W. Harrys, of Llanelly, and his estimate of the collieries, on the present working, is that they are now worth £30,000.

Mr. Harrys is well known in the South Wales coal district, and fully competent to form an opinion, as he is at present raising upwards of 400,000 tons of coal annually. The report of Mr. Harrys accompanies this prospectus.

The several properties consist of about 500 acres, and are held under leases at certain royalties. These properties are estimated to contain workable coal as follows:—

Carway and Duffryn	9,519,312 tons.
Waungreen	2,120,348 "
Maesgwillim	5,153,734 "
Forest Fawr	2,697,770 "
Total	19,491,164 tons.

There are in all 17 veins, and the chief of them are shown on the Geological Ordnance Survey of Great Britain.

The veins vary from 1 to 9 feet in thickness, but the big vein of 9 feet is the only one being worked at present, which alone is calculated will yield of workable coal 3,473,910 tons, or sufficient to last nearly 60 years at 60,000 tons per annum.

The calculations are carefully made by an experienced mineral engineer, from actual survey, and his report can be seen on application at the company's offices.

The plant at present consists of two steam-engines, with all the winding gear and pumping apparatus in full operation, the newly-erected engine-house and workshops, smithies, storehouses, stabling, offices, &c., the whole constructed in the best possible manner; also, railway plant, trucks and tramways, barges, horses, &c.; in fact, every adjunct necessary at the present moment for raising and shipping with dispatch 200 tons of coal per day.

The annexed plan on a small scale shows the boundaries of the property, and a true section of the coal measures.

Since the 1st of January in the last year, when the company first took possession of these mines, a large sum of money has been expended in improving the underground and surface workings, and whilst these new works have been in progress only a comparatively small quantity of coal has been raised, about 25,000 tons, the whole of which has been readily sold at a good profit. The average raisings at present are at the rate of 6000 tons per annum. The whole of the improvements are now nearly finished, and when completed 75,000 tons per annum will be the average raisings.

The coal finds a ready sale, and a great portion of it—viz., the stone, or malting coal—is used in making malt for the principal London breweries. The demand at present is greater than the supply, and contracts at highly remunerative prices are being made for large quantities for the current year.

The coal for steam purposes finds a ready sale, with an increasing demand, and contracts are in existence for supplying large quantities for shipment.

The small, or culm, finds also a ready sale, and the supply is scarcely equal to the demand.

The present average selling price of all description of coal (free on board ship) in Pembrey Harbour or Kidwelly Quay is ..... 8s. 0d. per ton.
Cost of production, including royalties and charges of every description, is 5s. 6d. "

The colliery at present is only raising at the rate of 60,000 tons per annum, but no difficulty exists, with the aid of more machinery and plant, to increase the same to 100,000 tons per annum, and with a reduction in the cost of production.

The sale of 60,000 tons at 8s. per ton will give ..... £24,000 per annum.
The cost of producing 60,000 tons at 5s. 6d. per ton is .... 16,500 "

Showing an annual profit of £7,500
Or equal to a dividend of 15 per cent. on the whole capital of the company.

The directors, therefore (believing that they are justified by the present condition of the company, and to enable them further to develope the colliery), propose to raise the further sum of £16,000 by way of preference shares, and that these preference shares shall bear a guaranteed rate at 8 per cent. interest, not redeemable until the expiration of five years.

The gross profit on the working of 60,000 tons being ..... £7500 per annum,
Will be a sufficient security for the 8 per cent. preference shares on £16,000 now proposed to be raised, which interest will amount only to } 1280 "

Leaving to be divided among the original shareholders the sum of .. £6220 per annum

The subscribers for these preference shares will have the option at any time in three years from this date to declare their intention of accepting ordinary for preference shares.

Applications for shares in the annexed form may be sent either to the brokers or to the offices of the company.

FORM OF APPLICATION FOR £8 PER CENT. PREFERENCE SHARES.

To the Directors of the Carway and Duffryn Steam Coal Company (Limited).

GENTLEMEN,—I request you to allot me preference bonds of £5 each of the above company, not redeemable until five years from the date thereof, with interest at £8 per cent. half-yearly in the meantime, which I undertake to accept, and have paid the deposit of £2 10s. into your bankers, as certified by the accompanying receipt, and agree to pay the balance of £2 10s. within 30 days after notice from you to that effect.

Name .....
Address .....

Dated this day of , 1859.

STEAM TO AUSTRALIA UNDER SIXTY DAYS.
PASSAGE MONEY £14 AND UPWARDS.
To the consignment of Bright Brothers and Co., Melbourne.

BLACK BALL LINE OF BRITISH AND AUSTRALIAN

EX-ROYAL MAIL PACKETS AND EAGLE LINE OF PACKETS.
In conjunction with the celebrated auxiliary steam clippers
GREAT BRITAIN and ROYAL CHARTER.
Appointed to Sail punctually from LIVERPOOL on the
5th and 15th of every Month.

The above, in addition to being the only line with steamers out of Liverpool, is composed of the LARGEST, FINEST, and FASTEST MERCHANT SHIPS in the WORLD.

Ship.	Register.	Burthen.	Captain.	Date.
MORNING STAR	1327	4000	RANDELL	18th June.
SALDANHA	1527	4000	FLYNN	5th July.
CHAMPION OF THE SEAS.	1946	5000	OUTRIDGE	To follow.
GREAT BRITAIN	1763	5000	GRAY	To follow.

To be succeeded by the following clippers and steamers:—

GREAT BRITAIN.	OCEAN CHIEF.
ROYAL CHARTER.	INDIAN QUEEN.
LIGHTNING.	BRITISH TRIDENT.
CHAMPION OF THE SEAS.	GIPSEY BRIDE.
DONALD M'KAY.	GREAT TASMANIA.
MARCO POLO.	COMMODORE PERRY.
EAGLE.	METEOR.
SALDANHA.	MONTMORENCY.

The above celebrated steam and sailing clippers, forming the only lines honoured by a visit from Her Majesty the Queen, and so well known for their rapid passages, punctuality in sailing, and splendid accommodation unsurpassed by any ships in the world, will continue to sail regularly between Liverpool and Melbourne, thus affording to passengers and shippers the most unrivalled advantages. The commanders are men of experience, and noted for their kindness and attention to passengers.

The cabin accommodation is very superior, the saloons being elegantly furnished with every requisite to ensure comfort to passengers, and are supplied with beds, bedding, &c.

Parties wishing to bring their friends home, can obtain tickets for these ships leaving Australia every month.

Apply to GIBBS, BRIGHT, and Co., merchants, 1, North John-street, and JAMES BAINES and Co., Tower-buildings, Liverpool; or to T. M. MACKAY and Co., 2, Moorgate-street, London, E.C. 148

NOTICE.—The WHITE STAR clippers, comprising the LARGEST, FINEST, and FASTEST CLIPPERS in the WORLD, will be dispatched punctually at noon of the 1st and 20th of every month.

WHITE STAR LINE OF BRITISH AND AUSTRALIAN

EX-ROYAL MAIL PACKETS.
SAILING FROM
LIVERPOOL TO MELBOURNE, on the 1st and 20th of every month, and from MELBOURNE TO LIVERPOOL on the 1st of every month.
Passengers forwarded by steamers to ALL PARTS OF AUSTRALIA, TASMANIA, &c., at through rates.

RED JACKET	KIRBY.	WHITE STAR	T. C. KERR.
PRINCE OF THE SEAS	H. A. BROWN.	STAR OF THE EAST	GAGGS.
BLUE JACKET	CLARKE.	SHALIMAR	J. R. BROWN.
MERMAID	JAMES WHITE.	ARABIAN	M. GANDY.
BEECHWORTH	THOMAS FRAIN.	SIROCCO	O'HALLORAN.
CYCLONE	GEORGE KERR.	TORNADO	AIKIN.

And other celebrated clippers.

Ship.	Register.	Burthen.	Captain.	Date.
ARGONAUT	1237	3700	WHITE	June 20.
JAMES CHESTON	1074	3200	BYRNE	July 1.
SHALIMAR	1456	4250	BROWN	July 20.

Passengers embark on the 20th and 30th of June.

The above splendid and far-famed clippers will be dispatched punctually on the days advertised with mails and passengers. The clippers of this line have made some of the fastest passages on record; they were built especially for the Australian passenger trade, and are commanded by men of great experience and skill. The saloons are fitted with great splendour, and furnished with bedding, linen, and all necessaries. The accommodations for second cabin and other classes cannot be surpassed by those of any fleet in the kingdom.

For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or to GRINDLAY and Co., 63, Cornhill, London; or SEYMOUR, PEACOCK, and Co., 116, Fenchurch-street, London. 149

EMIGRATION TO NEW ZEALAND.

WHITE STAR LINE OF LIVERPOOL AND NEW ZEALAND CLIPPERS.

Sailing on the 10th of every month.
FROM LIVERPOOL TO NEW ZEALAND.

The clippers of this line consist of the largest, handsomest, and fastest sailing ships afloat, including the *Red Jacket*, *White Star*, *Blue Jacket*, *Tornado*, *Mermaid*, *Shalimar*, *Telegraph*, and *Prince of the Seas*, many of which have been employed in Her Majesty's postal service, and are famous for the rapidity of their passages, and the uniform satisfaction given to the passengers carried by them to Australia.

For Auckland, Wellington, and Canterbury.

Ship.	Register.	Burthen.	Captain.	Date.
MERMAID	1320	3750	JAMES WHITE	July 10.
TELEGRAPH	1108	3200	DAVIS	Aug. 10.
BLUE JACKET	1074	3200	CLARKE	Sept. 10.

The magnificent clipper, *Mermaid*, Capt. James White, will be dispatched for Auckland, Wellington, and Canterbury on the 11th of July. She is one of the finest and fastest clippers afloat, and has made the passage to and from Melbourne in 74, 75, 77, and 79 days respectively. She has splendid accommodation in the poop for a large number of saloon passengers, for whose accommodation is provided a piano, library, bedding, linen, and all necessaries. The arrangements for second cabin, intermediate, and steerage passengers are equal to those of any ship afloat. The between decks are very lofty, beautifully lighted, and thoroughly ventilated.

The *Mermaid* will sail punctually on the 11th July, and passengers must embark on the 9th of June. Saloon passengers on the morning of the 11th.

For all information respecting freight and passage, also the free land grants in the fine province of Auckland, New Zealand, list of agents, &c., refer to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or to GRINDLAY and Co., 63, Cornhill, London; or SEYMOUR, PEACOCK, and Co., 116, Fenchurch-street, London. 150

MINING AND COLLIERY OPERATIONS IN THE UNITED STATES.

THE UNITED STATES RAILROAD AND MINING

REGISTER. Edited and published by Thomas S. Fernon, at No. 423, Walnut-street, Philadelphia. To subscribers in Great Britain, 13s. 6d. ($3), payable in advance. Established May, 1856, issued weekly. Has a circulation throughout the United States, Canada, and Great Britain. 151

The *Register*, as its name imports, is devoted to the discussion and dissemination of occurrences and results bearing upon the practical theme of transportation by car upon the iron rail. And as for cars, artificial trackways must be constructed; Railroads, at the same time that they supply the most expeditious communication, exact the largest outlay of money, and, being of perishable materials, demand constant repair and watchfulness. Hence of improvements in the permanent way of railroads, and, also, in the rolling stock and machinery of railroads, tending to cheapen and facilitate transportation, the *Register* is ever ready and anxious to give early and appreciative notice.

The *Register*, too, as its name also indicates, is devoted to the consideration of Minerals and Metals—especially of Coal and Iron—in their geological and geographical depositories, and through all the processes of Mining, Manufacture, Transportation, and Sale.

Financial Exhibits, emanating from carrying corporations and corporations employed in the production of Minerals and the manufacture of Metals, are copied into the columns of the *Register*, with appropriate comments.

Prices Current of Stocks, Coal, and Metals, in the principal American and British markets, are given weekly, from the best authorities. [space.

Correspondence on subjects treated of in the *Register* will be gladly received and given

INVESTMENTS IN BRITISH MINES.
Full particulars of the most important Dividend and Progressive Mines will be found in the Fourth Edition of

BRITISH MINES CONSIDERED AS AN INVESTMENT,

Recently published, by J. H. MURCHISON, F.G.S., F.S.S.
Pp. 356; price 3s. 6d., by post, 4s.

Mr. MURCHISON also publishes a QUARTERLY REVIEW OF BRITISH MINING, giving, at the same time, the Position and Prospects of the Mines at the end of each quarter, the Dividends Paid, &c.; price 1s. Reliable information and advice will at any time be given by Mr. MURCHISON, either personally or by letter, at his offices, No. 117, Bishopsgate-street Within, London, where copies of the above publications can be obtained.

OPINIONS OF THE PRESS.

Mr. Murchison's new work on British Mines is attracting a great deal of attention, and is considered a very useful publication, and calculated to considerably improve the position of home mine investments.—*Mining Journal.*

The book will be found extremely valuable.—*Observer.*

A valuable little book.—*Globe.*

A valuable guide to investors.—*Herapath.*

Mr. Murchison takes sound views upon the important subject of his book, and has placed, for a small sum, within the reach of all persons contemplating making investments in mining shares that information which should prevent rash speculation and unproductive outlay of capital in mines.—*Morning Herald.*

Of special interest to persons having capital employed, or who may be desirous of investing in mines.—*Morning Chronicle.*

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To those who wish to invest capital in British Mines, this work is of the first importance.—*Welshman.*

This work enables the capitalist to invest on sound principles; it is, in truth, an excellent guide.—*Plymouth Journal.*

Persons desirous to invest their capital in mining speculations, will find this work a very useful guide.—*Warwick Advertiser.*

It is full of carefully compiled and reliable information relative to all the known mine in the United Kingdom.—*Sheffield Free Press.*

Those interested in mining affairs, or who are desirous of becoming speculators, should obtain and carefully peruse the work.—*Monmouth Beacon.*

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We believe a more useful publication, or one more to be depended on, cannot be found.—*Plymouth Herald.*

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Is deserving the attention of every one who seeks profitable investment of his capital.—*Brighton Examiner.*

This is really a practical work for the capitalist.—*Stockport Advertiser.*

To capitalists the work will prove very serviceable.—*Birmingham Mercury.*

All who have invested, or intend to invest, in mines, would do well to consult this very useful work.—*Ipswich Express.*

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WEST SNAILBEACH LEAD MINING COMPANY

(LIMITED).
Registered pursuant to the Joint-Stock Companies Acts, 1856 and 1857.
Capital £10,000, in 10,000 shares of £1 each.—5s. payable on allotment.

PROVISIONAL DIRECTORS.
JOHN BOURNE, Esq., Hilderstone Hall, Staffordshire.
Major HENRY FITZGERALD, Maparton House, Somerset.
Mr. HENRY GROVE, Cheadle, Staffordshire.
Mr. HENRY LANGLEY, Rakeway House, Cheadle, Staffordshire.
Mr. BETHUEL PHILLIPS, The Hall Green, Tean, Staffordshire.
Mr. THOMAS WESTON, Tean, Staffordshire.

BANKERS—Messrs. Rocke, Eyton, and Co., Old Bank, Shrewsbury.
SOLICITOR—J. J. Peele, Esq., Shrewsbury.
SECRETARY—Mr. J. D. Brunton.
REGISTERED OFFICES,—10, REGENT STREET, LONDON, S.W.

In the county of Salop, at a distance of 15 miles south-west of Shrewsbury, there is a district which has been for ages productive of lead ore. At the present time the principal mine at work is Snailbeach, which is yielding a large revenue to its proprietors.

The property proposed to be worked by this company is situated about four miles west of Snailbeach, and lies in the direction of its lodes. It extends over more than 500 acres, and commands a long run of the lodes. Harrison's lode is now producing about 1 ton to the fathom, and is set on tribute at 8*l.* per ton of lead produced, which bears a profit of about 6*l.* per ton. Great results may be anticipated from the continuation of the winze, from which this ore is being raised.

In and above the adit is a large lode, of from 5 to 10 ft. wide, of sulphate and carbonate of barytes; the quality is very good, and will at all times ensure a market. A contract has been entered into for 1000 tons, at 16s. per ton, delivered at the mine, which will leave a good profit. There is also some carbonate of barytes, which obtains a higher price than the sulphate, and can readily be sold. About 10,000 tons of the sulphate are in sight, and may be estimated to be worth 3500*l.* after all costs of raising are defrayed.

There are upon the mine all the buildings requisite for carrying on operations on a large scale. 153

Prospectuses and forms of application for shares may be obtained of the solicitor; and at the offices of the company, where may be seen specimens of the lead and barytes.

THE SOUTH DEVON IRON AND GENERAL MINING

COMPANY (LIMITED).
Capital £100,000, in 100,000 shares of £1 each
(Of which 40,000 have already been subscribed for).

DIRECTORS.
WILLIAM SARL, Esq. (firm of Sarl and Sons, Cornhill.)
GEORGE ORD, Esq., Brixton Hill, Surrey.
LYNCH WHITE, Esq., iron merchant, Upper Ground-street, London; and Clapham-park, Surrey.
WILLIAM SWINSCOW, Esq., Brixton Hill, Surrey.
SAMUEL BOUSFIELD, Esq., Oritons, Sussex; and Streatham Hill, Surrey.
WILLIAM HUGGINS, Esq., F.R.A.S., Upper Tulse Hill, Surrey.
(With power to add to their number.)

BANKERS—The City Bank, Threadneedle-street, London; the Branches of the Devon and Cornwall Bank.
BROKERS—Messrs. Carden and Whitehead, Royal Exchange-buildings, London.
CONSULTING ENGINEER—Josiah Hugo Hitchins, Esq., Devon Great Consols, Tavistock
SOLICITORS—Messrs. Prichard and Collette, 57, Lincoln's Inn-fields.
SECRETARY—Mr. George F. Goodman.
OFFICES,—CITY BANK CHAMBERS, THREADNEEDLE ST., E.C., LONDON.

This company has been formed for the purpose of acquiring and working some of the richest and most promising iron and tin mines—the Smallacombe freehold estate, upon which the Atlas tin and iron lodes are now being worked; the Hercules Iron Mine, on the Higher Bowden estate, both in Devon; and the Phœnix Iron Mine, in the parish of St. Issey, Cornwall, as shown in the accompanying plans and reports. The working of these properties alone will constitute this company the greatest vendors of iron ores in the Western Counties.

It is acknowledged that no better opening presents itself for the profitable employment of capital than the mining of iron ore. This ore occurs in greater abundance and regularity than those of other metals, and the demand is constant and increasing, and the sale highly remunerative.

Detailed prospectuses, with reports, &c., can be obtained of the secretary, or of the brokers, and to whom applications for shares should be forwarded. 154

SPECIAL NOTICE TO MINERS AND ALL ENGAGED IN MINING OPERATIONS.

WESTERN PROVIDENT ASSOCIATION.

Enrolled in 1848 under the Friendly Societies Acts.
HEAD OFFICE,—No. 11, BEDFORD CIRCUS, EXETER.

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The Right Hon. Viscount EBRINGTON, M.P.

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Rev. J. G. COPLESTONE, Offwell.	Rev. Prebendary CHILLCOTT, Monksilver.
HUMPHRY WILLYAMS, Esq., Truro.	

TREASURER—RALPH SANDERS, Esq., Exeter Bank.

Accumulated fund, upwards of £16,000.

Provides for the Industrial Classes, to suit all circumstances, by Monthly, Quarterly, or Yearly Payments.

SICK PAY, from 1s. to 20s. per week for twelve months, then half-pay.

SUMS AT DEATH, from £5 to £200.

SUMS from £5 to £200 payable to the member, if living, at any fixed age, or immediately to the family in the event of death, called "Deferred Sums."

OLD AGE ANNUITIES, of from 1s. to 12s. per week, commencing at a fixed age—60, 65, or 70.

ENDOWMENTS FOR CHILDREN, from £5 to £200.

The right of NOMINATION for paying the above assurances to families without expense to the amount of £50.

All the MONTHLY PAYMENTS are twelve only to the year.

All these provisions are made by this society for MINERS on safe and equitable rates.

The rules and tables were prepared by an eminent actuary, and are certified by Tidd Pratt, Esq., the Registrar of Friendly Societies.

NO ENTRANCE FEES—FEMALES ADMISSIBLE.
ALL PROFITS BELONG TO THE MEMBERS.

Members may remove to any part of the United Kingdom without losing the benefits they may have paid for.

The tables do not profess to be cheap, but they ARE AT THE VERY LOWEST RATES AT WHICH ANY SOCIETY CAN PROMISE THE DESIRED BENEFITS, WITH ABSOLUTE CERTAINTY OF SECURING THEM FOR EVERY MEMBER. The affairs of the society are examined every five years, so that if members pay too much for any benefit they alone will have the profit. The examination of the society's affairs by the actuary, to the end of the year 1857, proves it to have been most successful and prosperous, and that it had conferred great advantages on its members. The invested balance exceeds £16,000. Up to the end of 1858, the benefits dispensed to its members, in the 10 years from its establishment, were as follow:—

For sick pay	£8744	11	10¾
For life assurance, in sums of from £5 to £200	3755	11	1
For old age pay	571	19	4
For endowments	1243	9	3
For medical attendance	2038	14	11

The annual income of the society exceeds £6000.

Nearly 7500 members have been admitted, and they continue to join at a rate exceeding 600 per annum, a considerable number of whom are miners.

The society has 52 branches in operation in the principal towns in the three western counties. These branches are conducted by committees elected by and from the members, and, as is also the case at the head office, the management is in the hands of the persons for whom the benefits of the society are intended, the society enjoying at the same time the security of investing its funds solely in the names of the above-named trustees, and having had the advantage of the practical advice and recommendation of these gentlemen and of the noble president and vice-presidents, who with others contributed liberally to defray the expenses incident to the formation and extension of the institution.

The board of management is ready to extend the advantages of the society by the formation of branches in towns or villages not yet supplied.

Copies of the rules, reports, and all further information, may be obtained at the head office, 11, Bedford-circus, Exeter; or of the following branches in Devon and Cornwall:—

Branch.	Local secretary.	Medical officer.
ASHBURTON	Mr. W. R. Whiteway	E. F. Bean, Esq., and O. Kiernan, Esq.
BODMIN	Mr. W. J. Hawke, saddler	H. Mudge, Esq.
BOVEY TRACEY	Mr. T. Mann, jun., schoolmaster.	N. J. Haydon, Esq.
BUCKFASTLEIGH	Mr. J. B. Butchers	D. Phillips, Esq., and O. Kiernan, Esq.
CALLINGTON	Mr. J. G. Knight, schoolmaster.	J. Kempthorne, Esq., & W. Brown, Esq.
CAMBORNE	Mr. Richard Hugo	— Vincent, jun., Esq.
CHRISTOW	Mr. John Cornish, accountant	G. W. Lillies, Esq.
CHUDLEIGH	Mr. W. Adams, tailor, &c.	C. C. Moore, Esq., & G. W. Lillies, Esq.
DEVONPORT	Mr. W. R. D. Gilbert, Temperance Hotel.	F. Row, Esq., M.D.
FALMOUTH	Messrs. Warn and Skinner, accountants.	F. C. Bullmore, Esq.
HAYLE	R. T. Hearle, Esq., solicitor.	George Vawdrey, Esq.
HELSTON	Mr. E. J. Anthony, Savings' Bank.	J. Wearne, Esq., & W. H. Borlase, Esq.
IVYBRIDGE	Mr. J. Harris, engineer	E. Hartley, Esq.
LISKEARD	Mr. W. T. Hancock	A. Hingston, Esq.
NEWTON ABBOTT	Mr. S. Clarke, printer	Charles Gaye, Esq.
PENZANCE	Mr. W. H. Rodd, Princes-st.	F. Boase, Esq.
PLYMOUTH	Mr. H. H. Whipple, 8, Courtenay-street.	Dr. Jago, and Messrs. Freeman and Stevens.
REDRUTH	Mr. D. Barham & Mr. Wade	James L. Hichens, Esq.
SOUTH MOLTON	Mr. W. Oram, jun., accountant	George Allerton, Esq.
ST. AUSTELL	Mr. T. Kinsman	J. P. Berryman, Esq.
TAVISTOCK	Mr. W. Welsh, accountant	John G. Mitchell, Esq., and R. S. Jackson, Esq., of Beeralston.
TOTNES	Mr. Samuel Lane, tailor	W. Gillard, & G. N. Thompson, Esqs.
TRURO	Mr. W. Phillips, accountant	W. H. Bullmore, Esq., M.D.
WADEBRIDGE	Mr. W. M. Knapp, printer	Robert Rendell, Esq., & — Tukell, Esq.

Prospectuses, rules, &c., may be obtained from any of the local secretaries, who also will receive applications from persons desirous to become members; or of Mr. WILLIAM MORTIMER, the secretary, 11, Bedford-circus, Exeter.

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MESSRS. KNOWLES AND BUXTON, CHESTERFIELD,

MANUFACTURERS OF PATENT TUBULAR TUYERES

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LONDON: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their office, No. 26, FLEET-STREET, where all communications are requested to be addressed. [*June 11, 1859.*